

Environmental Protection Agency

Pt. 98, Subpt. F, Table F-2

(or to measure anode effect overvoltage and current efficiency).

(e) The following CO₂-specific information for prebake cells:

(1) Annual anode consumption.

(2) Annual CO₂ emissions from the smelter.

(f) The following CO₂-specific information for Sderberg cells:

(1) Annual paste consumption.

(2) Annual CO₂ emissions from the smelter.

(g) Smelter-specific inputs to the CO₂ process equations (e.g., levels of sulfur

and ash) that were used in the calculation, on an annual basis.

(h) Exact data elements required will vary depending on smelter technology (e.g., point-feed prebake or Sderberg) and process control technology (e.g., Pechiney or other).

§ 98.68 Definitions.

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE F-1 TO SUBPART F OF PART 98—SLOPE AND OVERVOLTAGE COEFFICIENTS FOR THE CALCULATION OF PFC EMISSIONS FROM ALUMINUM PRODUCTION

Technology	CF ₄ slope coefficient [(kg CF ₄ /metric ton Al)/ (AE-Mins/cell-day)]	CF ₄ overvoltage coefficient [(kg CF ₄ /metric ton Al)/(mV)]	Weight fraction C ₂ F ₆ /CF ₄ [(kg C ₂ F ₆ /kg CF ₄)]
Center Worked Prebake (CWPB)	0.143	1.16	0.121
Side Worked Prebake (SWPB)	0.272	3.65	0.252
Vertical Stud Sderberg (VSS)	0.092	NA	0.053
Horizontal Stud Sderberg (HSS) ...	0.099	NA	0.085

[74 FR 79156, Dec. 17, 2010]

TABLE F-2 TO SUBPART F OF PART 98—DEFAULT DATA SOURCES FOR PARAMETERS USED FOR CO₂ EMISSIONS

Parameter	Data source
CO ₂ Emissions from Prebake Cells (CWPB and SWPB)	
MP: metal production (metric tons Al)	Individual facility records.
NAC: net annual prebaked anode consumption per metric ton Al (metric tons C/metric tons Al)	Individual facility records.
S _a : sulfur content in baked anode (percent weight)	2.0.
Ash _a : ash content in baked anode (percent weight)	0.4.
CO ₂ Emissions From Pitch Volatiles Combustion (CWPB and SWPB)	
MP: metal production (metric tons Al)	Individual facility records.
PC: annual paste consumption (metric ton/metric ton Al)	Individual facility records.
CSM: annual emissions of cyclohexane soluble matter (kg/metric ton Al)	HSS: 4.0. VSS: 0.5.
BC: binder content of paste (percent weight)	Dry Paste: 24. Wet Paste: 27.
S _p : sulfur content of pitch (percent weight)	0.6.
Ash _p : ash content of pitch (percent weight)	0.2.
H _p : hydrogen content of pitch (percent weight)	3.3.
S _c : sulfur content in calcined coke (percent weight)	1.9.
Ash _c : ash content in calcined coke (percent weight)	0.2.
CD: carbon in skimmed dust from Sderberg cells (metric ton C/metric ton Al)	0.01.
CO ₂ Emissions from Pitch Volatiles Combustion (VSS and HSS)	
GA: initial weight of green anodes (metric tons)	Individual facility records.
H _a : annual hydrogen content in green anodes (metric tons)	0.005 × GA.
BA: annual baked anode production (metric tons)	Individual facility records.
WT: annual waste tar collected (metric tons)	(a) 0.005 × GA. (b) insignificant.
(a) Riedhammer furnaces	
(b) all other furnaces	
CO ₂ Emissions From Bake Furnace Packing Materials (CWPB and SWPB)	
PCC: annual packing coke consumption (metric tons/metric ton baked anode)	0.015.
BA: annual baked anode production (metric tons)	Individual facility records.

Parameter	Data source
S _{pc} : sulfur content in packing coke (percent weight)	2.
Ash _{pc} : ash content in packing coke (percent weight)	2.5.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

Subpart G—Ammonia Manufacturing

§ 98.70 Definition of source category.

The ammonia manufacturing source category comprises the process units listed in paragraphs (a) and (b) of this section.

(a) Ammonia manufacturing processes in which ammonia is manufactured from a fossil-based feedstock produced via steam reforming of a hydrocarbon.

(b) Ammonia manufacturing processes in which ammonia is manufactured through the gasification of solid and liquid raw material.

§ 98.71 Reporting threshold.

You must report GHG emissions under this subpart if your facility contains an ammonia manufacturing process and the facility meets the requirements of either § 98.2(a)(1) or (2).

§ 98.72 GHGs to report.

You must report:

(a) CO₂ process emissions from steam reforming of a hydrocarbon or the gasification of solid and liquid raw material, reported for each ammonia manufacturing process unit following the requirements of this subpart (CO₂ process emissions reported under this subpart may include CO₂ that is later consumed on site for urea production, and therefore is not released to the ambient air from the ammonia manufacturing process unit).

(b) CO₂, CH₄, and N₂O emissions from each stationary fuel combustion unit.

You must report these emissions under subpart C of this part (General Stationary Fuel Combustion Sources), by following the requirements of subpart C, except that for ammonia manufacturing processes subpart C does not apply to any CO₂ resulting from combustion of the waste recycle stream (commonly referred to as the purge gas stream).

(c) CO₂ emissions collected and transferred off site under subpart PP of this part (Suppliers of CO₂), following the requirements of subpart PP.

[74 FR 56374, Oct. 30, 2009, as amended at 75 FR 79156, Dec. 17, 2010]

§ 98.73 Calculating GHG emissions.

You must calculate and report the annual process CO₂ emissions from each ammonia manufacturing process unit using the procedures in either paragraph (a) or (b) of this section.

(a) Calculate and report under this subpart the process CO₂ emissions by operating and maintaining CEMS according to the Tier 4 Calculation Methodology specified in § 98.33(a)(4) and all associated requirements for Tier 4 in subpart C of this part (General Stationary Fuel Combustion Sources).

(b) Calculate and report under this subpart process CO₂ emissions using the procedures in paragraphs (b)(1) through (b)(5) of this section for gaseous feedstock, liquid feedstock, or solid feedstock, as applicable.

(1) *Gaseous feedstock*. You must calculate, from each ammonia manufacturing unit, the CO₂ process emissions from gaseous feedstock according to Equation G–1 of this section:

$$\text{CO}_{2,G,k} = \left(\sum_{n=1}^{12} \frac{44}{12} * \text{Fdstk}_{n,k} * \text{CC}_n * \frac{\text{MW}}{\text{MVC}} \right) * 0.001 \quad (\text{Eq. G-1})$$